

Nov 16

U/R

OK d'16/7/7

Work Order ID 148130

148130

Page 1

Friday, June 24, 2016 2:06:17 PM

Item ID: D119-646-041 Accept *N9000040100* Setup Start *NS1*
 Revision ID: URF 15-560 Stop *NS2*
 Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
 Start Date: 10/21/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 11/11/2016 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: dm Date: 10/26/24 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
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D3887-041	D
IIN-D119-646	C

100

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-041 CHG004

110

0.00

110

Skidtubes

Memo

0.00

Skidtubes

1- inspect Mat'L D2500-1-190 for damage
 2-Cut tube to length as per dwg D3887 (154.8")
 3- Ensure squareness of ends and scribe batch#

16-10-13

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Item ID: D119-646-041 Accept *N900040100* Setup Start *NS1*
 Revision ID: URF 15-560 Stop *NS2*
 Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
 Start Date: 10/21/2016 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 11/11/2016 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120									
HandFinish	Memo	0.00							
Hand Finishing									
121	QC7-Inspect Chemical Conversion Coat	0.00							
121									
QC	Memo	0.00							
Quality Control									
122	QC5- Inspect part completeness to step on W/O	0.00							
122									
QC	Memo	0.00							
Quality Control									

(X1) 2016/10/18
BEB

1 16-10-18

DA
19
9-89

DAS
18
9-89

1 16-10-18

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

130

Skidtubes

Skidtubes

Memo

0.00

1- Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill first side only.

2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477

4- Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) ***DO NOT OPEN FWD Saddles Holes***

5- Deburr, blow out chips from inside of tube.

6- Bond web in place as per Dwg D3887 & QSI 015.

A/R Sikaflex-291 B135772Sikaflex expire date: 17-02-16Start: _____ Time: 11:45Finish: _____ Time: 12:02

***** (Adhere for 12 hours) *****

16-10-18 16-10-20 

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Item ID: D119-646-041

Accept

N900040100

Setup Start

NS1

Revision ID: URF 15-560

Stop

NS2

Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 10/21/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 11/11/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

135

QCS- Inspect part completeness to step on W/O

0.00

135

QC

Memo

0.00

Quality Control

DAS
18
9-39

1 0 16-10-21

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

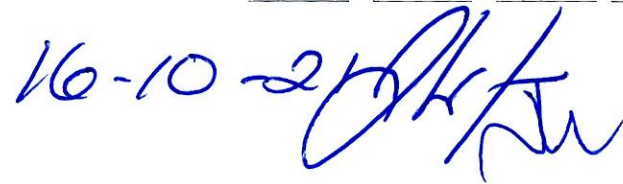
Skidtubes

Skidtubes

Memo

0.00

- 1- Bend FWD end of tube using bender 1 and FOLIO 31 bend prog. D3887.***Must use bending aid DT9544, ensure proper positioning***
- 2- Cut FWD end of tube as per dwg D3887.***Verify measurement***
- 3- Buff out marks left from bending
- 4- Drill FWD cap holes using DT8215. Open FWD & AFT cap holes to 0.208"
- 5- Open FWD saddle holes to finished size as per dwg D3887
- 6- Drill FWD x-bolt spacer holes using DT9816 and open to finished size.(verify measurement)
- 7- Drill Tow ring hole, using DT10047 locate from FWD saddle hole. (verify measurement). Open to finished size.
- 8- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.
- 9- C'sink FWD cap hole as per detail "C"
- 10- Drill holes for wearpads using DT8931, open to 0.297".
- 11- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.
- 12- Deburr and blow out chips from inside of tube.



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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150	QC5- Inspect part completeness to step on W/O	0.00							
-----	---	------	--	--	--	--	--	--	--

150

QC

Memo

0.00

Quality Control

DAS
18
9-89

1 0 1670-24

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	NOTE:TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDELING FIXTURE,IF FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091.								
	1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod <u>M134826</u>								
	2-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole.								
	3-Counterbore 5/16" x 0.750" deep as per Dwg D3887.								
	4- Deburr & Scribe batch # on Aft end of tube.								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.00							
Quality Control	TEST FIT USING FIXTURE DT10091.								

BE/16-10-25
BE/16-10-31 JH

DAS
38
9-89
NOV 03 2016

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180	QC10- Inspect visual per QSI004- ground welds	0.00							DAS 38 9-89
180									
QC	Memo	0.00							
Quality Control									NOV 03 2016

190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								2016/11/04 BEB

200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat									
Powder Coating									16-11-14 DAS 34 9-89

★
SEE
Attached

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

10:20.

320°

10:50.

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220		0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3887.								
230	QC5- Inspect part completeness to step on W/O	0.00							
230									
QC	Memo	0.00							
Quality Control									

DAS
15
9-89DAS
34
9-89

Work Order ID 148130

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240		0.00							
240									
HandFinish									
Hand Finishing									
	Memo	0.00							
	1-Install wearpads, gaskets as per Dwg D3887. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 <u>M135772</u> Sikaflex expire date: <u>12/02</u>								
	2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: <u>M135479</u> RTU 598 M135478 78/04								
	3 -Inspect for foreign objects as per QSI 024								
	4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 <u>M135771</u> Sikaflex expire date: <u>12/02</u>								
245	QC5- Inspect part completeness to step on W/O	0.00							
245									
QC									
Quality Control	Memo	0.00							

SEE Attached

DAS 38 9-89

NOV 15 2016

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Item ID: D119-646-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 15-560 Stop ***NS2***
Item Name: Replacement Skidtube with Wearpads, Fits LH or RH
Start Date: 10/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/11/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Wing Walk as per dwg QSI005 4.4 Batch <u>M1135910</u>	0.00							
250									
HandFinish	Memo	0.00							
Hand Finishing									
251	QC3- Inspect Part Finish	0.00							
251									
QC	Memo	0.00							
Quality Control									
260	Identify as per dwg & Stock Location: <u>6/0</u>	0.00							
260									
Packaging	Memo	0.00							
Packaging									

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38
9-89
NOV 15 2016

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Item ID: D119-646-041**Accept*****N900040100*****Setup Start *NS1*****Revision ID:** URF 15-560**Stop *NS2*****Item Name:** Replacement Skidtube with Wearpads, Fits LH or RH**Start Date:** 10/21/2016 **Start Qty:** 1.00 ***1*****Cust Item ID:****Required Date:** 11/11/2016 **Req'd Qty:** 1.00 ***1*****Customer:****Reference:****Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____**Run Start *NR1*****QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____**Stop *NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC21- Final Inspection - Work Order Release	0.00							
270									
QC	Memo	0.00							
Quality Control									

DAS
21
9-89

NOV 28 2016

Picklist Print

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Page 2

Work Order ID: 148130

148130

Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 10/21/2016

Required Date: 11/11/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1611-005

Purchased

No

240

Each

407.0000

16

16

NAS1611-005

O-RING

**

ll 16/16/15

Location

Loc Qty

Loc Code

FP001

407

m129198

11

M135706

x16

m133498

196

m134816

200

D3492-5

Manufactured

No

240

Each

196.0000

16

16

D3492-5

Plug

**

ll 16/16/15

Location

Loc Qty

Loc Code

FP001

196

133396

8

B150918

x16

136396

6

138198

2

142818

180

D3672-1

Manufactured

No

240

Each

1,016.000

2

2

D3672-1

Washer, Phenolic

**

ll 16/16/15

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

14

112218

14

ST049

492

134785

492

ST051A

500

147077

500

x2

Picklist Print

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Work Order ID: 148130

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 10/21/2016

Required Date: 11/11/2016

Start Qty: 1.00

Required Qty: 1.00

D3681-1

Manufactured No

160

Each

70.0000

8

8

D3681-1

Spacer

**

Location

Loc Qty

Loc Code

LG001

70

142904

70

D3847-1

Manufactured No

240

Each

51.0000

5

5

D3847-1

Wearpad

**

Location

Loc Qty

Loc Code

FP001

51

138338

10

142745

25

142854

2

146614

14

D3847-11

Manufactured No

240

Each

38.0000

1

1

D3847-11

Wearpad

**

Location

Loc Qty

Loc Code

FP001

38

138418

1

142783

24

146945

13

D3885-1

Manufactured No

140

Each

19.0000

1

1

D3885-1

Standard Web

**

Location

Loc Qty

Loc Code

LG002

19

142573

19

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Shop Packet Print

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Picklist Print

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Work Order ID: 148130

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 10/21/2016

Required Date: 11/11/2016

Start Qty: 1.00

Required Qty: 1.00

D3903-1 Manufactured No 160 Each 213.0000 12 12

D3903-1

Spacer

**

BE 16-10-24
B150281 x 12

Location

Loc Qty

Loc Code

LG001

213

142730

213

ALS4-1032-130 AEIS4-1032-130 Purchased No

220 Each 3,138.000 30 30

ALS4-1032-130

Rivnut

**

22 1611/15

Location

Loc Qty

Loc Code

CCK005

1596

M134502

1596

FP001

552

M133077

122

M134502

430

ST556

990

M134502

990

AN3C5A Purchased No

240 Each 1,188.000 32 32

AN3C5A

Bolt

**

22 1611/15

Location

Loc Qty

Loc Code

FG

5

122800

5

FP001

488

M134502

488

OVER002

300

M134955

300

ST350

395

M133234

1

M134676

394

M135442

x30

x32

Picklist Print

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Work Order ID: 148130

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Parent Item: D119-646-041

D119-646-041

Parent Item Name: Replacement Skidtube with Wearpads, Fits LH or RH

Start Date: 10/21/2016

Required Date: 11/11/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

Each

5,760.000

32

NAS1149C0332R

WASHER

del 16/11/15

Location

Loc Qty

Loc Code

FP001

1758

M135948

x32

m132930

1004

m134073

128

m134962

626

GA

141

m133284

141

ST266

3861

m134736

1861

m135046

2000

MS24694-C52

Purchased

No

Each

69.0000

2

MS24694-C52

SCREW

del 16/11/15

Location

Loc Qty

Loc Code

FP001

63

m127059

17

M135466

x1

m133855

46

ST287

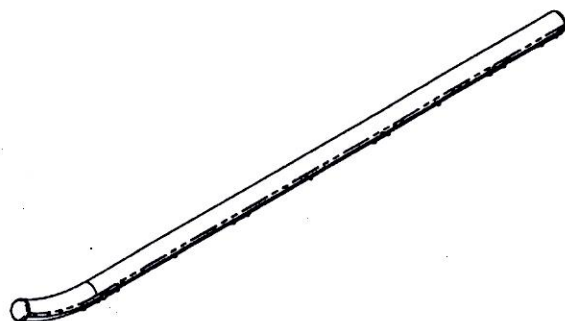
6

NA

124308

6

x1



D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)
D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs
D3887-043 = 37.0 lbs
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2679	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	2	2	2	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	32	32	2	AN3C5A	BOLT
43			8	AN3C48A	BOLT
44	32	32		NAS1149C0332R	WASHER (OR AN980C10L)
45			8	MS21043-3	NUT
46	2	2	2	MS24894-C52	SCREW

RELEASED

UNDER REVIEW

2014 NOV 24

15.04.30 URF15-560 AP

D	REVISED BEND TOLERANCES FOR MANUFACTURABILITY, 136.07 WAS 134.04 (ZN D5-8). ADD 5.07 (ZN C2-8). ADD 116.8 (ZN D5-8). DELETE GASKETS (BOM, SH 2)	DB	13.09.20
C	(SHT1, PL, ZN C2-2, C3-2, C4-2) ITEM 13, QTY 2 WAS 4, ITEM 42, QTY 32 WAS 34, ITEM 44, QTY 30 WAS 32, ADD ITEM 46, MS24894-C52 WAS AN3C5A, 2 PLCS (ZN C1-5, C1-6, 94-7) 0.201 CSK Ø0.385 X 100" WAS 99.214 THRU, ADDED DETAIL F (ZN C5-5, C6-5, B2-7), ADD ITEM 10, D2579 CROSS BOLT SPACER (ZN D4-1, A6-7)	DB	13.02.19
B	ALS4-1032-130 WAS AELS-1032-130 (ZN C4-1, C5-7, C3-7); ADD DT8931 (ZN A6-1), ADD 134.04 (ZN C4-8), D2855-3 WAS D2575 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C6-2, C2-2, C6-3, C2-3, C6-4, C2-4); Ø0.313 WAS Ø0.328 (ZN C4-5, C4-5, C2-7 & B3-7) REVISED NOTE N (ZN B3-7)	RF	09.08.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3887	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
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w/o 148130

2m 16/06/24

AN3C5A BOLT
D3872-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

D3847-11
WEARPAD

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

11
Ø0.187
8 PL PER SIDE
REF

1.5 1.5

2.00 DISTANCE TO D3885-1 WEB, REF

AN3C5A BOLT
NAS1149C0332R WASHER
24 PL

PLUG UNUSED INSERTS WITH
AN3C5A BOLT
NAS1149C0332R WASHER
8 PL

D3847-1
WEARPAD
5 PL

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3887-11)

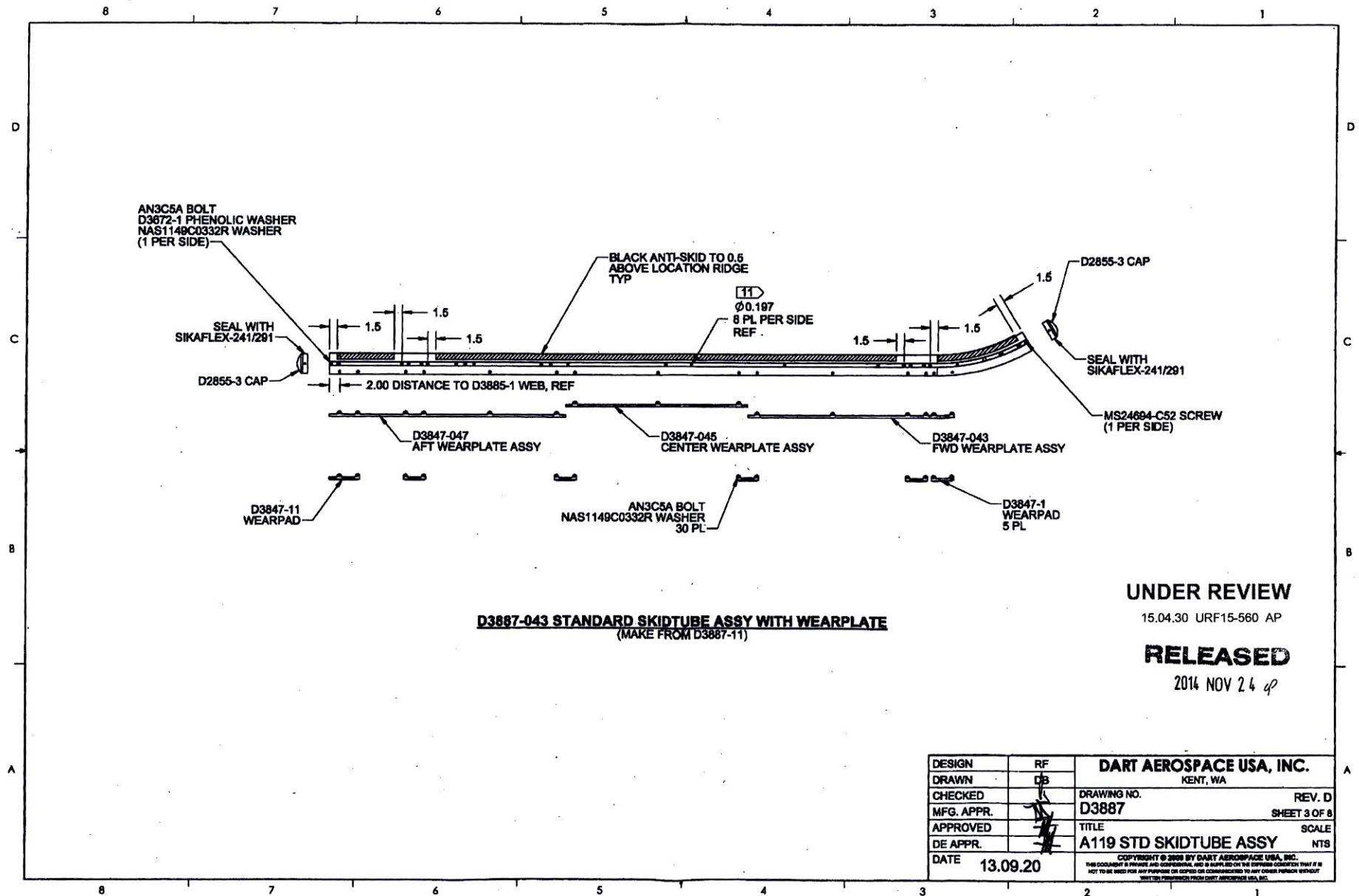
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AN3C5A BOLT
D3672-1 PHENOLIC WASHER
NAS1149C0332R WASHER
(1 PER SIDE)

SEAL WITH
SIKAFLEX-241/291

D2855-3 CAP

AN3C46A BOLT
D3904-1 WASHER, 2 PL
MS21043-3 NUT
8 PL

D3849-043
AFT TRAINING WEARPLATE ASSY

BLACK ANTI-SKID TO 0.5
ABOVE LOCATION RIDGE
TYP

1.5 1.5

2.00 DISTANCE TO D3885-1 WEB

1.5 1.5

D2855-3 CAP

SEAL WITH
SIKAFLEX-241/291

MS24694-C52 SCREW
(1 PER SIDE)

D3849-041
FWD TRAINING WEARPLATE ASSY

D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3387-13)

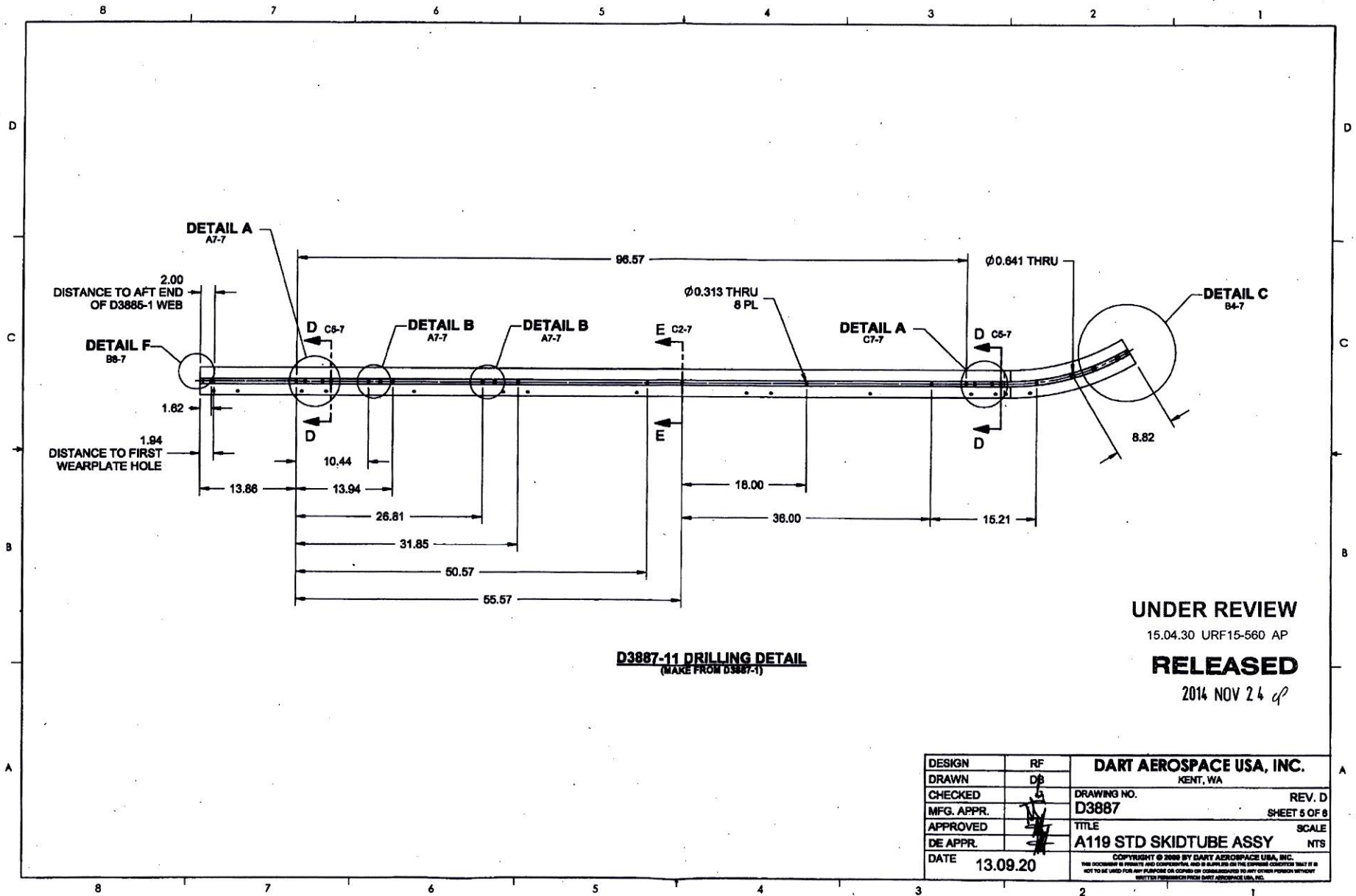
UNDER REVIEW

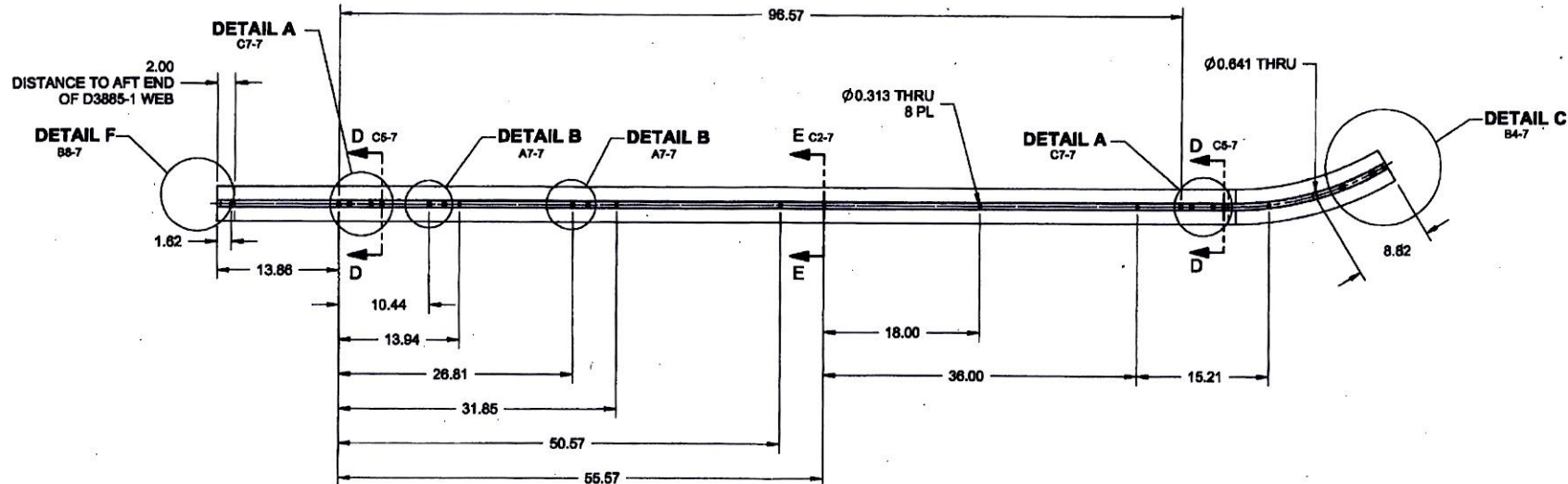
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MFG. APPR.	<i>[Signature]</i>	D3887	SHEET 4 OF 8
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D3887-13 DRILLING DETAIL
(MAKE FROM D3887-1)

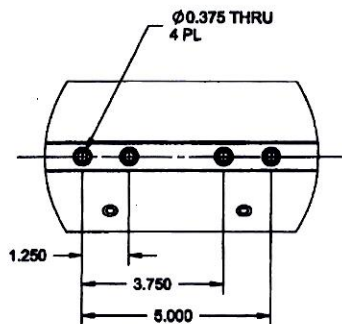
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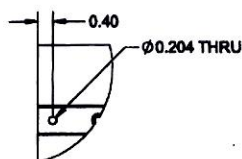
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MFG. APPR.		D3887	SHEET 6 OF 8
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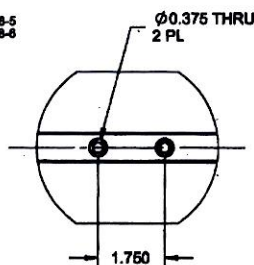
DETAIL A
SCALE 4X

D7-5
C3-5
D7-6
C3-6



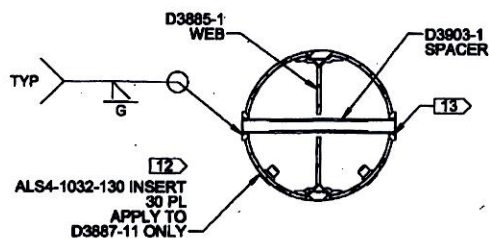
DETAIL F
SCALE 4X

C8-5
C8-6



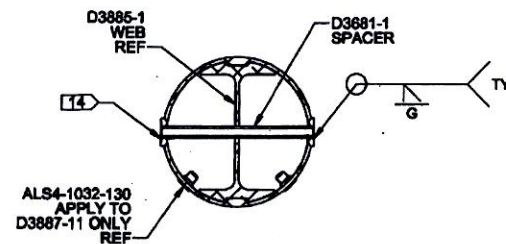
DETAIL B
SCALE 4X

C8-5
C5-5
C8-6
C3-6



SECTION D-D
SCALE 4X
(FOR 12 X Ø0.375 HOLES
PER SKIDTUBE)

C7-5
C3-5
C7-6
C2-6



SECTION E-E
SCALE 4X
(FOR 8 X Ø0.313 HOLES
PER SKIDTUBE)

C4-5
C4-6

NOTES:

13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- i) CHAMFER HOLES Ø0.475 x 45°
- ii) INSERT D3803-1 SPACER
- iii) WELD INTO PLACE AND GRIND FLUSH
- iv) CBORE TO 0.313 x 0.75 DEEP
- v) DEBURR HOLES

14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:

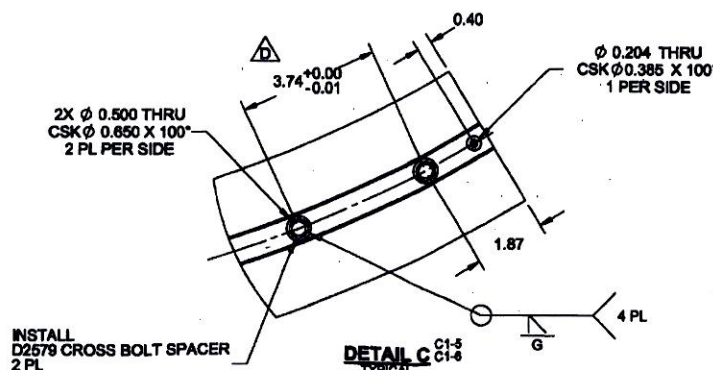
- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
- vii) INSERT D3681-1 SPACER
- viii) WELD INTO PLACE AND GRIND FLUSH
- ix) DEBURR HOLES

UNDER REVIEW

15.04.30 URF15-560 AP

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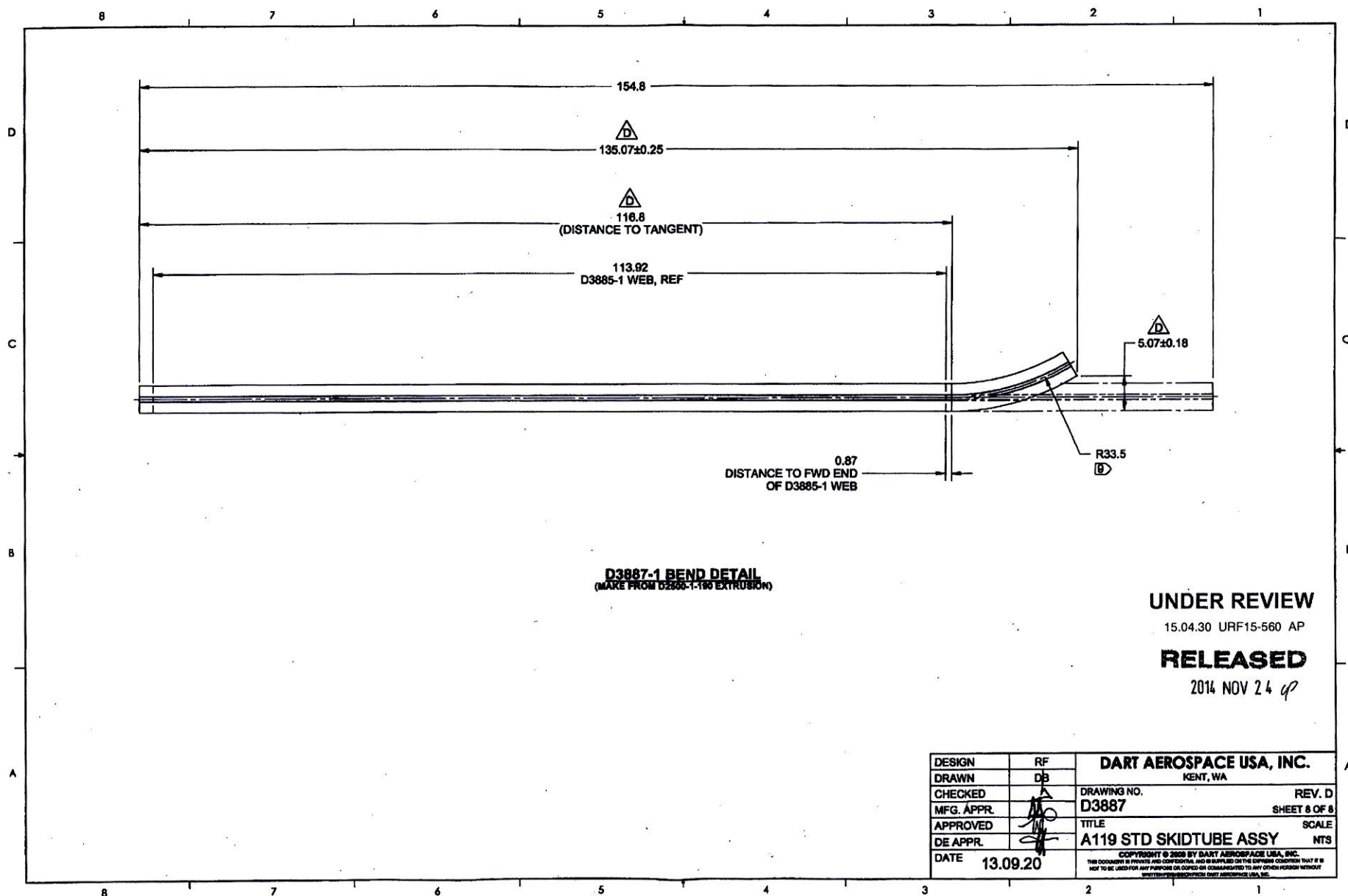
2014 NOV 24



DETAIL C
SCALE 4X

C1-5
C1-6

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MFG. APPR.		D3887	SHEET 7 OF 8
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only ☒

Work Order: <u>148130</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Date: <u>16/5/16</u>		Step #: <u>200</u>		QTY Effective: _____		MRB (QSI042) Approval <u>DAS</u> <u>12</u> <u>9-89</u> <u>16/7/17</u>																																																																	
Description Work Order Deviation				Disposition																																																																			
No powder coat on saddle region per customer request.				Acceptable per attached masking instructions				Completed By <u>DAS</u> <u>348</u> <u>16.11.14</u>																																																															
								Lead hand / Supervisor Approval Verification																																																															
								QC / QA Coordinator Approval																																																															
Root Cause <table style="width:100%;"> <tr><td>Environment ☐</td><td>No Re-verification ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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☒ OTHER: <u>Customer</u>																																																																							

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>148130</u> Part No. <u>D119-646-041</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☒</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																																																																	
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Date : <u>16/3/16</u>		Step #: <u>240</u>		QTY Effective : _____		MRB (QSI042) Approval																																																																																																																																	
Description Work Order Deviation Plug unused holes with AN3C4A Bolts rather than AN3CSA Bolts.				Disposition Acceptable AN3C-4A/M13577 + (x6)				DAS 12 9-89 16/7/17 Completed By <u>15</u> 9-89 Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																																																																																															
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